Amendments to the Specification:

Please amend paragraph [0022] in pages 4 and 5 as:

[0022] As mentioned above, ridge waveguides have been proposed as a useful modification to resolve the size issue of the rectangular waveguides. To further resolve the reduced characteristic impedance problem of the ridge waveguide and to adequately reduce the phase velocity of the wave propagated within the ridge waveguide, the present invention provides a ridge waveguide having a slow-wave structure 10 as shown in Figure 3. The ridge waveguide has a hollow rectangular tube with a top wall 30t, two opposing side walls 30s and a bottom wall 30b. Preferably, the top, side and bottom walls 30t, 30s and 30b are fabricated from conductive or metallic materials, and the tube is filled with air. According to IRE standards, the coordination system as shown in Figure 4 includes an x direction taken as the longer transverse dimension, a y direction taken as the shorter transverse dimension, and a z direction taken as the longitudinal dimension, along which the wave propagates within the ridge waveguide. Along the z direction, the central portion of the top wall 30t is recessed to form an elongate ridge 32 protruding downwardly into the tube. The ridge 32 has two side surfaces parallel with the side walls 30s and a bottom surface parallel with the bottom wall 30b. The ridge waveguide further comprises a plurality of trenches 34 formed in the ridge 32. In this embodiment, as the hollow tube has a rectangular profile, the trenches 34 are also configured into rectangular shape with a depth the same as the height of the ridge 32. As shown in Figure 3, the formation of the trenches 34 partitions the ridges 32 into a plurality of small ridges 32a arranged in parallel along the z direction. It will be appreciated that in addition to the rectangular tube profile, the ridge waveguide can also be configured with other profiles such as cylindrical tube profile. When the ridge waveguide is configured into a

structure other than a hollow rectangular tube, the shapes of the ridge 32 and the trenches 34 may also be altered. Further, though the ridge waveguide as shown in Figure 4 includes only one ridge 32, the present invention can also be applied to dual-ridge waveguide or multiple-ridge waveguide without exceeding the scope and spirit of the present invention.